

Appl. No. 10/694,592
Amdt. Dated July 28, 2008
Reply to Office Action of February 28, 2008

CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 to 11 (canceled).

Claim 12 (currently amended). A method for checking for line faults in a bus system having at least two bus subscribers connected to a data bus for data communication between the subscribers, the data bus having at least two bus lines, which comprises:

configuring the bus subscribers to be able to assume a recessive state and a dominant state;

making available an internal high potential and an internal low potential in the bus subscribers;

carrying out a check for a line fault by a bus subscriber only when the bus subscriber is in the dominant state; and

carrying out a check for line faults by comparison of voltage levels on the bus lines with threshold values related to one of an internal high level and an internal low level of the bus subscriber.

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Claim 13 (currently amended). The method according to claim 12, which further comprises:

providing a supply voltage ~~related to an~~ referenced to an internal reference ground potential in the bus subscribers, the threshold values being greater than the supply voltage; and

identifying a fault when one of the voltage levels on the bus lines is greater than the respective threshold value.

Claim 14 (previously presented). The method according to claim 13, which further comprises identifying a fault when one of the voltage levels on the bus lines is greater than the respective threshold value during a predetermined number of successive dominant states of the bus subscriber carrying out the fault identification.

Claim 15 (previously presented). The method according to claim 12, which further comprises:

comparing the voltage levels on the data lines with one another for detection of transmitted data; and

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upon detection of a fault on one of the data lines, carrying out detection of transmitted data by comparing the voltage level on the other one of the data lines with a threshold value related to one of the internal high potential and the internal low potential.

Claim 16 (previously presented). The method according to claim 13, which further comprises:

comparing the voltage levels on the data lines with one another for detection of transmitted data; and

upon detection of a fault on one of the data lines, carrying out detection of transmitted data by comparing the voltage level on the other one of the data lines with a threshold value related to one of the internal high potential and the internal low potential.

Claim 17 (previously presented). The method according to claim 14, which further comprises:

comparing the voltage levels on the data lines with one another for detection of transmitted data; and

upon detection of a fault on one of the data lines, carrying out detection of transmitted data by comparing the voltage level on the other one of the data

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lines with a threshold value related to one of the internal high potential and the internal low potential.

Claim 18 (currently amended). A bus system, comprising:

a data bus having at least two bus lines; and

at least two bus subscribers coupled to said data bus for serial data transfer of binary data between said bus subscribers, at least one of said bus subscribers having:

at least one control unit;

at least one transceiver for at least one of transmission and reception of data signals; and

at least one fault identification device ~~carrying out the method according to claim 12~~ configured to:

cause the one of said bus subscribers to be able to assume a recessive state and a dominant state,

make available an internal high potential and an internal low potential in the one of said bus subscribers,

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carry out a check for a line fault only when the one of said bus subscribers is in the dominant state, and

carry out a check for line faults by comparing voltage levels on the bus lines with threshold values related to one of an internal high level and an internal low level of the one of said bus subscribers.

Claim 19 (previously presented). The bus system according to claim 18, further comprising at least one fault detection device comparing at least one voltage level on one of said bus lines with a threshold value related to one of the internal low level and the internal high level and providing a fault signal.

Claim 20 (previously presented). The bus system according to claim 19, wherein said at least one fault detection device is:

a first fault detection device comparing a voltage level on one of said data lines with a first threshold value and provision a first fault signal; and

a second fault detection device comparing a voltage level on the other one of said data lines with a second threshold value and providing a second fault signal.

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Claim 21 (previously presented). The bus system according to claim 20, further comprising a first data detection device for detection of transmitted data, said first data detection device comparing voltage levels on said bus lines and providing a first data signal.

Claim 22 (previously presented). The bus system according to claim 21, further comprising:

at least one second data detection device for detection of transmitted data, said second data detection device comparing a voltage level on at least one of said data lines with at least one threshold value related to the internal low level to provide at least one second data signal; and

a switch switching between said first data signal and said at least one second data signal as a function of said at least one fault signal.

Claim 23 (previously presented). The bus system according to claim 18, wherein said data bus serially transmits binary data by duplex signals and is in the form of a differential, two-wire data bus having two bus lines twisted with one another.

Claim 24 (previously presented). The bus system according to claim 18, wherein the bus system is a CAN bus system.

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Claim 25 (previously presented). The bus system according to claim 18, further comprising at least one means for detecting a fault, said fault detecting means comprising at least one voltage level on one of said bus lines with a threshold value related to one of the internal low level and the internal high level and providing a fault signal.

Claim 26 (previously presented). The bus system according to claim 25, wherein said at least one fault detection device is:

a first means for detection a fault, said first fault detecting means comparing a voltage level on one of said data lines with a first threshold value and provision a first fault signal; and

a second for detection a fault, said second fault detecting means comparing a voltage level on the other one of said data lines with a second threshold value and providing a second fault signal.

Claim 27 (previously presented). The bus system according to claim 26, further comprising a first means for detecting transmitted data, said first data detection means comparing voltage levels on said bus lines and providing a first data signal.

Claim 28 (previously presented). The bus system according to claim 27, further comprising:

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at least one second means for detecting data comparing a voltage level on at least one of said data lines with at least one threshold value related to the internal low level to provide at least one second data signal; and

a means for switching between said first data signal and said at least one second data signal as a function of said at least one fault signal.

Claim 29 (canceled).

Claim 30 (currently amended). A bus system, comprising:

a data bus having at least two bus lines; and

at least two bus subscribers coupled to said data bus for serial data transfer of binary data between said bus subscribers, at least one of said bus subscribers configured to assume a recessive state and a dominant state and having:

internal high and low potentials;

internal high and low levels;

at least one control unit;

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at least one transceiver for at least one of transmission and reception of data signals, said transceiver connected to said control unit; and

at least one fault identification device connected to at least said transceiver and carrying out:

a check for a line fault only when ~~a bus subscriber~~ the at least one of said bus subscribers is in said dominant state; and

a check for line faults by comparing voltage levels on said bus lines with threshold values related to one of said internal high level and said internal low level.